CPHE

1052

PHM/SR-9-S1

Mid-level and nurse practitioners in the Pacific: Models and issues

World Health Organization
Western Pacific Region
Manila, 2001

CPHE

Mid-level and nurse practitioners in the Pacific: Models and issues

World Health Organization
Western Pacific Region
Manila, 2001

Mid-level and nurse practitioners in the Pacific: Models and issues

The World Health Organization welcomes request for permission to reproduce or translate its publications, in part or in full. Applications and enquiries should be addressed to the Office of Publications, World Health Organization, Geneva, Switzerland or to the Publications Unit, World Health Organization, Regional Office for the Western Pacific, P.O. Box 2932, 1000 Manila, Philippines (E-mail: pub@wpro.who.int) which will be glad to provide the latest information on any changes made to the text, plans for new editions, and reprints and translations already available.

© World Health Organization 2001

Publications of the World Health Organization enjoy copyright protection in accordance with the provisions of Protocol 2 of the Universal Copyright Convention. All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

CONTENTS

Page

1. Background 1

2. Purpose of the Report 2

3. Education, roles and functions of mid-level practitioners 3

4. The assessment study 5

5. Mid-level and nurse practitioner programme models in the Pacific 6

6. Comparing models of education and practice for mid-level and nurse practitioners 9

7. Essentials of mid-level practitioner training programmes 13

8. Strategies recommended for developing and maintaining a competent mid-level practitioner workforce 16

9. Conclusions of the assessment study 19

10. Summary of recommendations 21

References 22

1. BACKGROUND

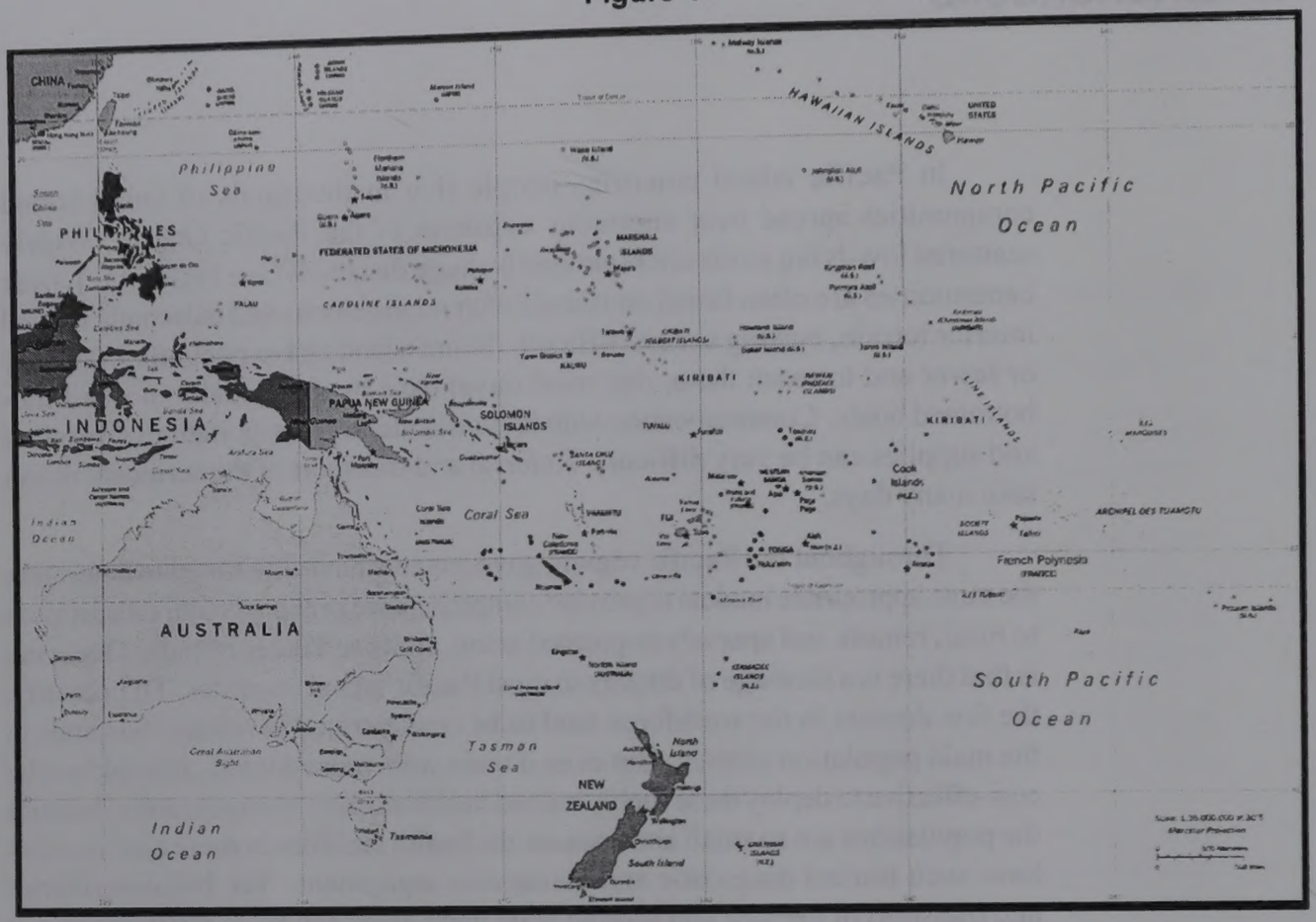
In Pacific island countries people live in thousands of small island communities spread over enormous expanses of the Pacific Ocean. Widely scattered low-lying atolls are separated by huge distances (see Figure 1). Larger communities are often found on islands with mountainous and extremely rugged interior terrain, making access difficult. Some islands have populations of fifty or fewer and to reach them, one must travel days by sea, usually in small flat-bottomed boats. Communication with these islands and transportation of vaccines and supplies can be very difficult. Referral and transport of the seriously ill can take many days.

Throughout the Pacific region, governments have attempted to determine the most appropriate models to provide comprehensive primary health care services to rural, remote and sparsely populated areas, atolls and outer islands. One issue is that there is a shortage of doctors in most Pacific island countries. Of necessity, the few doctors in the workforce tend to be concentrated in referral hospitals in the main population centres. But even if there were more doctors, it would not be cost-effective to deploy these highly trained health workers in remote areas, because the populations are so small and because the health facilities in these communities have such limited diagnostic and therapeutic equipment. Yet, because referral and transport of the sick and injured from these areas can be so difficult and can take so long, the health workers posted to these small remote communities need excellent skills. This is why many countries have trained mid-level practitioners. Each country's unique geography, socioeconomic structure, population size and distribution have influenced the role development of the health care workers, or mid-level practitioners, providing these remote primary health care services.

Mid-level practitioners are front-line health workers in the community, who are not doctors, but who have been trained to diagnose and treat common health problems, to manage emergencies, to refer appropriately and to transfer the seriously ill or injured for further care.

Mid-level and nurse practitioners have played an important role in meeting the health needs of the Pacific island countries for over 20 years, and the World Health Organization (WHO) has cooperated with many governments to support their education and practice.

Figure 1



2. PURPOSE OF THE REPORT

The purpose of this report is to summarize the roles and functions of mid-level and nurse practitioners in Pacific island countries and to present the findings and the conclusions of a ten-country assessment of mid-level and nurse practitioners to Health Ministers by:

(1) presenting the current models of mid-level provider education and practice in Pacific island countries;

(2) discussing the issues facing governments when they make decisions about mid-level providers in their health workforce;

(3) discussing strategies for strengthening the education and practice of mid-level providers; and

(4) presenting recommendations for the use of mid-level practitioners in Pacific island countries.

3. EDUCATION, ROLES AND FUNCTIONS OF MID-LEVEL PRACTITIONERS

Throughout the Pacific most generalist mid-level practitioners have the same function—the provision of clinical primary care in community-based health facilities. However, mid-level practitioner education programmes vary considerably, as do the seriousness and complexity of the health problems mid-level practitioners can manage.

Graduates of mid-level practitioner training programmes have been given various titles, including physician assistant, medex, medical assistant, health assistant and health officer. Nurses who undertake this advanced training are often called nurse practitioners.

These titles do not always reflect the entry requirements or the level of training. Some mid-level practitioners with equivalent training are given different titles in different countries. For example, the role and training of nurse aides in the Solomon Islands and of community health workers in Papua New Guinea are similar.

At the same time, some mid-level practitioners with different educational backgrounds may have similar titles. A medical assistant in Kiribati is a nurse who has received advanced training. A medical assistant in Fiji does not have a nursing background.

Even mid-level practitioners with similar educational backgrounds and training have different titles in different countries. For example, medical assistants in Fiji, health officers in Tonga and health extension officers in Papua New Guinea are basically equivalent in their role, training and function.

Regardless of the title, mid-level practitioners have played an important role in meeting the health care needs (both curative and preventive) of the Pacific island countries, especially in remote or rural areas and sparsely populated locations where it is not cost-effective to post a doctor. These health professionals play vital roles in meeting the needs of at-risk and vulnerable community members, including the poor, chronically ill, young and elderly.

3.1 WHO collaboration

WHO consultants and staff working in collaboration with host country health officials have provided technical support for mid-level and nurse practitioner training, curriculum development, policy/legal development, clinical protocol development and implementation. A summary of various types of Pacific Island mid-level and nurse practitioner programmes and a profile of graduates can be found in Table 1.

Table 1: Mid-level and nurse practitioner titles and training programmes[1]

	Cook Islands	Fiji	Kiribati	Marshall Islands	Chuuk, Micronesia	Pohnpei, Micronesia	Papua New Guinea	Samoa	Solomon Islands	Tonga	Vanuatu
Mid-level practitioner title											
Nurse practitioner	✓*	✓		✓*	✓*	✓*					✓
Medical assistant		✓	✓								
Clinical nurse consultants								✓			
Health extension officer							✓				
Medex				✓	✓	✓					
Health officer										✓	
Health assistant				✓	✓	✓					
Nurse aides									✓		
Year programme initiated[2]	1990[a]	1975[b] (MA) 1998 (NP)	1978	Mid-1970's	Mid-1970's	1970's; 1999	1967	1993		1977	1983
Programme duration (years)[2]	1	1 (NP)	1.5	1.5 (HA)	1 (HA)	Unknown	4	1		3	10 months
Total number of programme graduates[2]	6	61 MAS 10 NPs;	46	76-80	200-300	25-30	250+	37		34	44
Percentage of graduates presently employed[2]		64%(MAs) 100% (NPs)	83%	88%	Estimated at 50%	58%	93%	95%		79%	91%
Reasons for attrition[2]											
Retirement		✓	✓	✓			✓				✓
Further education/training		✓									
Migration		✓	✓					✓		✓	
Death			✓	✓			✓			✓	
Transfer to administrative post			✓				✓				
Dismissal										✓	
Resignation					✓	✓				✓	

Key:
[1] Graduate or registered nurses, midwives and public health and other speciality nurses, and/or enrolled or practical nurses also work in rural/remote areas in almost all countries.
[2] Data incomplete or unavailable.
* Inclusive of graduates of overseas (regional or international) nurse practitioner training programmes.
[a] Nurse practitioner training in 1990 only.
[b] MA training ceased in 1984.
HA Health assistant.
MA Medical assistant.
NP Nurse practitioner.

WHO has supported the training of medical assistants in Kiribati; health assistants in the Marshall Islands and the Federated States of Micronesia; nurse practitioners in the Cook Islands, Samoa and Vanuatu; and health officers in Tonga. Support has also been provided for training of rural health workers (nurse aides) in the Solomon Islands. Most recently, beginning in September 1998, WHO cooperated in the development and evaluation of a new nurse practitioner programme in Fiji.

The role and function of mid-level practitioners in the health workforce has been discussed for the past six years in WHO meetings of Ministers of Health of the Pacific Islands. At the March 1999 meeting of Health Ministers and Health Secretaries in Palau, the Ministers requested WHO to undertake an assessment study of mid-level practitioners in the Pacific and to report the findings.

4. THE ASSESSMENT STUDY

The multi-country assessment was conducted between March and August 1999 by two WHO nurse educators and one WHO short-term consultant. All three assessors had qualifications and experience as mid-level practitioners and all had experience working in Pacific island countries.

Survey instruments and an assessment protocol were developed to permit comprehensive, multifaceted assessment and analysis of mid-level and nurse practitioners in Pacific island countries. The protocol and instruments were developed to enable appraisal of: (1) provider demographic and practice profiles; (2) the type of initial mid-level training undertaken; (3) patient and provider satisfaction; (4) national policies and legislation concerning the practice of mid-level practitioners; (5) competency indicators; (6) facilities' assessment; and (7) logistical, continuing education and consultative support available to mid-level practitioners.

Between April and August 1999, the consultant visited ten Pacific island countries: Cook Islands, Fiji, Kiribati, Marshall Islands, the Federated States of Micronesia, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu.

During these visits, meetings were held with Ministry of Health officials, doctors, nurses, community health workers, educators, community leaders and other stakeholders knowledgeable about the education, practice and deployment of mid-level providers.

In order to assess their clinical practice skills, community involvement, and the logistical support for mid-level practitioners, the consultant visited health facilities to interview staff, review records, and, where possible, to observe directly the clinical practice of the mid-level providers. Some visits were made to the outer islands and to other remote areas.

Country-specific reports of the findings and recommendations of assessment visits were sent to the government of each country visited.

5. Mid-level and nurse practitioner programme models in the Pacific

There were mid-level and nurse practitioner training programmes in nine of the ten countries assessed; four of which (Fiji, Kiribati, Samoa, Vanuatu) train nurses as mid-level practitioners. Programme durations, which ranged from ten months to four years, are listed by country in Table 1. Programme coordinators reported that, on average, the programmes consisted of approximately 50% theoretical content and 50% clinical practice; although some countries have a higher percentage of applied clinical learning.

Nurses worked as mid-level practitioners in seven of the ten countries assessed. In the Northern Pacific (Marshall Islands and Micronesia), the majority of mid-level practitioners were called health assistants, while limited numbers of nurse practitioners, most of whom were women's health nurse practitioners, worked in central or urban areas.

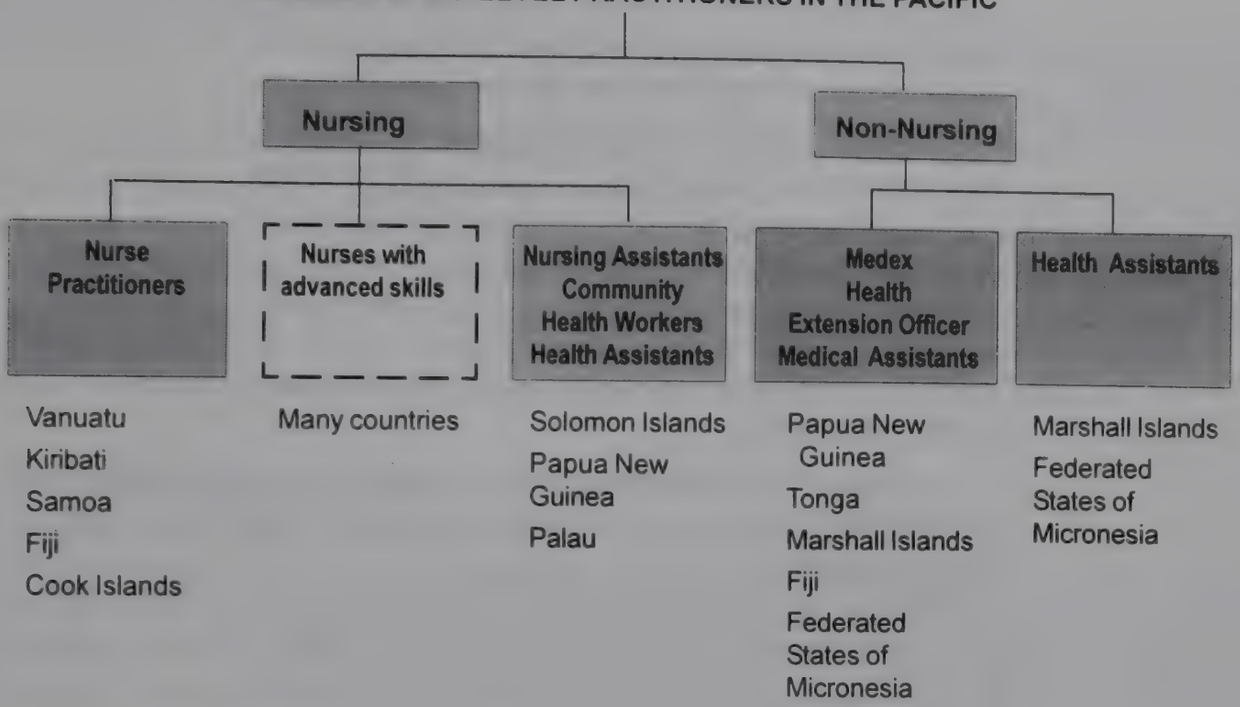
Figure 2 is a schematic representation of the various models of mid-level provider education and practice in Pacific island countries.

Although there are some areas of overlap, there are two broad models for mid-level practitioner programmes: (1) programmes that are associated with nursing and (2) programmes that are not.

Within both the nursing and the non-nursing models, there are various categories of practitioners, representing different levels of expertise and practice.

Figure 2

MODELS OF MID-LEVEL PRACTITIONERS IN THE PACIFIC



5.1 Nursing models

5.1.1 Education of nurses as mid-level practitioners

Nurse practitioners have, in most cases, completed a formal post-registration training course to prepare them to provide comprehensive clinical primary care services in medically under-served areas. Nurse practitioner education programmes require at least one year of intensive, clinically oriented, supervised training. In Pacific island countries, upon completion of their training, registered nurses who have successfully completed advanced training programmes may be awarded either a certificate, diploma or advanced diploma.

The Cook Islands, Fiji, Kiribati, Samoa and Vanuatu all have nurse practitioners, though they do not all use that title. In Kiribati, they are called medical assistants and in Samoa they are referred to as Advanced Diploma Nurses (because that is the qualification they receive) or clinical nurse consultants.

5.1.2 Nurses practising in rural/remote areas with some additional primary clinical care skills

Many nurses in rural areas of the Pacific *function* as nurse practitioners, diagnosing and treating conditions as best they can. However, most have not been specifically trained for this function in their basic education programmes, although many basic nursing education programmes in the Pacific try to include

some content on the assessment and management of common primary health care problems. It was for this reason that nurse practitioner training courses were initially established—to fill the gap between the training nurses received in their traditional programmes and the clinical services they were expected to provide in areas where there were few if any doctors.

Many nursing education institutions have tried to include some basic medically-focused *content* in their curricula (such as the signs and symptoms and treatment of common diseases), and some forward-thinking health departments have produced standard treatment guidelines. While these help, they are not a substitute for supervised clinical training in the *process* of clinical decision-making, such as how to take a proper patient history; how to conduct a good physical examination; how to assess the findings of the examination and how to make a differential diagnosis.

Nurses with some advanced clinical curative primary care skills learned in their basic nursing education or in post-basic clinical courses and workshops also fulfil vital primary health care roles, under supervision, in rural and remote communities. Nurses fulfilling this role in Samoa are called enrolled nurses; their work is supervised by clinical nurse consultants. In Palau, practical nurses who have undergone further on-the-job public health training work in outlying dispensaries with on or off-site medical supervision.

5.1.3 Entry-level training of health workers, by nurses, for provision of basic treatment of common primary health care problems in rural areas

Nursing assistants, nurse aides, and community health workers trained by nurses to provide basic treatment for common primary health care problems in rural areas often provide essential care to patients in remote communities and in isolated islands.

These health workers often enter their training programmes with very limited educational backgrounds. However, if they are given practical hands-on clinical training, they can make an important contribution to the well being of rural communities. These programmes are usually one to two years in duration. Examples of this category of health worker can be found in Papua New Guinea, and the Solomon Islands.

5.2 Non-nurse mid-level training programmes

Non-nursing models for mid-level practitioner training are those where a nursing background is not required for entry and where the graduates are not generally considered part of the nursing workforce. There are two main types.

5.2.1 Medex (Micronesia), health extension officer (Papua New Guinea), health officer (Tonga), medical assistant (Fiji)

Some mid-level practitioners in these countries enter their training programmes with some medical or nursing background. An example would be the health assistants and nurses who entered the Medex programmes in Micronesia in the 1970s.

Most non-nurse mid-level practitioner training models do not require a health background for entrance; nor is a nursing background required. Graduation from high school is the most common entry requirement for these programmes. Thus, these programmes are typically longer than mid-level nurse practitioners' training programmes. Three years of study would not be unusual.

5.2.2 Health assistant (Micronesia), community health workers (Papua New Guinea, etc)

Like the nurse aides, these practitioners may have limited educational backgrounds and typically enter one to two year training programmes. With good practical training, including well-structured and well-supervised clinical practice, these health workers can make an important contribution to health care delivery in rural areas.

There are also other categories of health workers, often volunteers, who provide health services in their villages, and have been trained for shorter periods of time. These health workers are not included in the mid-level practitioner category as their training is often quite short. Their core skills, although often focused on the promotion of communities' health, are very basic and are not adequate for the advanced diagnostic reasoning required for clinical curative care.

6. COMPARING MODELS OF EDUCATION AND PRACTICE FOR MID-LEVEL AND NURSE PRACTITIONERS

What model is best for the provision of the full-range of preventive and curative primary health care services? There is no one model; what is best for a country will depend on that country's particular situation. Demographic factors, including population distribution; topography and geography; available resources; the make-up of the existing workforce; the supply of and demand for health care workers; and the health needs of communities all help to determine the best model for a particular country.

6.1 Mid-level practitioner nursing models

Internationally, in countries that have large nursing workforces and shortages of doctors (especially in rural areas), the trend since the 1980s has favoured the training of nurse practitioners. This is also true in Pacific island countries, where most of the existing mid-level practitioner training programmes are nurse practitioner training programmes. There are five main reasons for this.

6.1.1 Nurses are already an established category of the workforce of almost every country

Countries which decide to train nurses as mid-level practitioners do not need to create a new category of health worker. Nurse practitioners are still nurses and, should they later be transferred to a hospital setting, their advanced clinical assessment skills can be put to good use.

Nurse practitioner training creates a career pathway for nurses, one that recognizes and utilizes their advanced clinical skills. Nurse practitioners who are later promoted to supervisory positions will be well prepared to improve patient care standards and to provide in-service education for their staff.

6.1.2 Nurses are the largest category of health workers in most countries

The nursing workforce represents a large pool of health workers from which suitable candidates for advanced clinical training can be recruited.

6.1.3 Nurses are already living and working in underserved areas

Many nurses have strong family ties in small remote communities and are willing to live and work there. One of the findings of this study was that graduates of nurse practitioner programmes in the Pacific tend to stay in the country and tend to stay in clinical practice. Giving these nurses advanced clinical training is a good investment because they represent a stable workforce for communities in need.

6.1.4 Nurses are already providing a wide range of curative and preventive services in many countries

Of necessity, many nurses are already diagnosing and treating common health problems, managing emergencies, and providing reproductive health services. Mid-level nurse practitioner training will improve the quality of services that nurses are already providing.

Training programmes in the nursing model will probably be shorter than in non-nursing models because they build on the knowledge, skills and experience that nurses have already acquired. Additionally, given their prior experience and

education, nurses often have the necessary primary health care experience and clinical and problem-solving skills to enable them to learn to make sound and rational clinical decisions more easily, following a shorter period of training than that required for non-nurses.

Research carried out in developed countries has examined the quality and outcomes of patient care provided by nurse practitioners, as compared to physicians. It has demonstrated that the care provided by nurse practitioners is not only cost-effective, but also has outcomes and quality corresponding to that of care provided by physicians (Bowling and Stillwell, 1996; Mundinger et. al, 2000; Sox, 2000).

6.1.5 Nurses are a flexible, multi-skilled workforce

A single nurse practitioner working in a rural community can provide the whole range of essential primary health care nursing services including health promotion, preventive services, and curative care. This is an important consideration in the many countries that find it difficult to recruit and retain staff in rural areas. It is also important because the study found that nurse mid-level practitioners tended to do more public health community outreach than their non-nurse counterparts.

It is important to note that this advantage only holds for generalist or family nurse practitioners. Most countries cannot afford to place specialists in small rural communities, so specialist nurse practitioners, such as paediatric nurse practitioners, tend to be utilized in urban clinical settings.

6.2 Non-nursing mid-level practitioner models

Despite the many advantages of the nursing model, it is not a good choice for every country. Which model is the best model depends on the country situation. Mid-level practitioner programmes in the Pacific have developed to meet specific country needs. How these programmes developed depended on the resources available at the time.

The Micronesian countries, for example, have had a long-standing nursing shortage, so they have not had a large pool of nursing candidates for mid-level practitioner training. However, they have had the benefit of the Pacific Basin Medical Officer Training Programme which was based in Pohnpei for 10 years and which produced a cadre of Pacific island medical officers and health assistants. So the non-nursing model was right for the time. Nevertheless, increasing numbers of nurses with specialist skills, such as women's health nurse practitioners, are being employed in the main population centres.

The Marshall Islands is an example of a Pacific island country with a nursing shortage which has used mid-level practitioners since the 1940s. It also provides a good example of how a cadre of mid-level health workers has evolved over time, because of changing financial and human resources in the health sector.

In the mid-1940s military corpsmen in the Marshall Islands were trained on the job for one year to fill the post-war shortage of health care providers. Then in the 1970s these corpsmen were trained to be mid-level practitioners, and a new classification of health worker was born—the health assistant. The corpsmen training ended and over the next 30 years, around 80 health assistants were trained.

In the late 1970s, in cooperation with the University of Hawaii, an 18-month Medex mid-level practitioner programme was established to expand and upgrade the skills of nurses and health assistants in the North Pacific, particularly in Micronesia and the Republic of the Marshall Islands. The Marshallese health workers who graduated from this programme have played a key role in health care delivery.

Today, one of the Marshallese graduates of the Medex programme supervises the health assistants who continue to provide basic primary health care services on the outer islands. At the present time, the remaining graduates of the earlier Medex programmes are now working in central out-patient clinics.

6.3 Two models in one country

In some countries of the Pacific, there are two models in place, both nursing and non-nursing models. In most cases this is because the country is in-transition from a non-nursing to a nursing model, and there are still both types of mid-level practitioners in the workforce. In other cases this is because the country uses nurses as mid-level practitioners (even though they have not been especially trained for this role) as well as non-nurses, such as health extension officers.

The difficulties that can arise from this situation are easy to predict. In a health facility, who is in charge of whom? Is the nurse practitioner part of the nursing establishment and the medical assistant or health extension officer part of the medical workforce? Which officer is senior?

One developed country that has successfully utilized both nurse and non-nurse mid-level practitioners is the USA.

For the past 35 years, the USA has trained both nurse practitioners and physician assistants. The reasons for the evolution of these roles included the increasing size of the population; shortages of primary care physicians; increasing physician specialization; rising costs of health care; the desire to expand the scope of nursing practice; and the need to improve child health care (Bowling and Stillwell, 1996). In some cases (where the physician assistant students are required to have some medical background, such as laboratory technicians or medical corpsmen), students from these two models are trained together. This has been

successful and graduates from these two models coexist as equals in what is essentially a private health care system.

However, for this dual model to be successful in the Pacific, where most health services are provided by the government, careful attention to the roles, classification, career structure, and compensation of these essentially equivalent health professionals would be required.

7. Essentials of mid-level practitioner training programmes

Over the years, the graduates of mid-level practitioner programmes have demonstrated that such health workers can indeed be taught to provide the whole range of primary health care services—both curative and preventive—and mid-level practitioners have gained international acceptance as competent, cost-effective health care providers. Training and use of mid-level practitioners, particularly nurse practitioners, are therefore increasing, in the industrialized countries as well as in the developing world.

The quality of services mid-level practitioners provide depends very much on the quality of their training. If health workers are to be taught in one year to handle health problems that doctors learn to manage with four or more years' training, a different approach has to be taken, even if the students have a nursing background. It is not good enough to rotate them through the various clinical services. It is not good enough to slot them into regular medical training programmes or to give them a watered down version of a medical education. The approach requires a highly skilled and clinically expert faculty to facilitate, both in and outside the classroom, adult-learning in a participatory and interactive way, focused on critical thinking and problem-solving. Teachers must also provide intensive and mentored clinical learning experiences which promote diagnostic reasoning and clinical decision-making skills.

Over the years and in many countries, the international health community has gained considerable experience in training these mid-level health workers. The assessment study in Pacific island countries confirmed that the following are essential elements of mid-level practitioner training programmes.

7.1 Teaching programme of at least 12 months in length

It takes a full year to train a nurse practitioner to provide the full range of primary care for patients of all ages. For those with less medical or clinical nursing background, more time is needed.

7.2 Training focused on essential core content and related clinical competencies

Training should focus on facilitating critical thinking and problem-solving, using methods which promote interactive and peer or group-learning, utilizing written, real or simulated cases, together with practical clinical skills that the practitioners will need in their work settings. Training must focus on competencies that the mid-level practitioner "needs to know," and omit the "nice to know."

Core curricular content is usually focused on the knowledge, attitudes and skills required to provide the full range of primary health care services to remote or isolated communities. Such work settings and services usually require a sound foundation in: (1) health assessment and clinical decision-making; (2) pathophysiology, assessment, management (including pharmacological) and prevention of common chronic, acute health problems of persons of all ages, including acute/emergency conditions; (3) reproductive, child and adolescent health care; (4) basic epidemiology, and advanced primary health and community-health care; (5) preventive health education, teaching and counselling; and (6) administration of health centres, and monitoring, evaluating and improving health care services.

7.3 Early introduction of practical clinical experience

The first three to four weeks of the course should be devoted to teaching students to take a history and to perform a complete physical examination. Then they will be able to start clinical practice immediately, learning early on in their training how to distinguish normal from abnormal physical findings. Lectures, discussions and problem-based or case-based group discussions should be integrated into clinical practice.

Students' clinical practice requires careful advance planning and use of experienced, well-qualified clinical mentors, together with supervision and teaching by well-qualified clinical faculty. Minimal clinical requirements should be established for the numbers and types of patients that students must examine and treat prior to graduation. A clinical log to record this information is essential to monitor students' practical experience.

7.4 Adequate clinical teaching and supervision

Clinical practice and training without supervision and evaluation is useless. Every effort must be made to ensure that students get feedback on their interviewing and interpersonal skills with patients, physical findings, clinical thought processes and clinical reasoning, and treatment plan. At the same time, students' self-learning, their acquisition of information concerning cases, and their application of research or evidence must be supported and facilitated. Most effective clinical teaching occurs in the patient-care situation. Books can substitute for lectures, but nothing can substitute for bedside clinical teaching.

7.5 Relevant evaluation

The evaluation process should focus on clinical performance and evaluation of required competencies, including history-taking and physical examination skills; diagnostic reasoning; management, including diagnostic work-ups, pharmacological and non-pharmacological management and patient/family education. Students' case presentations should be observed and chart notes reviewed, in order to ensure that they develop adequate skills to communicate and record essential data clearly and concisely. Students should be clinically evaluated on-site by their clinical supervisors as well as by the teachers in their training programmes. Standardized performance checklists are useful as a guide to clinical supervisors and provide helpful feedback to the students. Written examinations should focus more on clinical decision-making than on theoretical knowledge.

7.6 Doctors involved in teaching and evaluation

Many of the skills mid-level practitioners need to master are basic curative medical skills. It is essential that doctors be involved in planning training programmes, including nurse practitioner training programmes, and that doctors participate in the classroom and clinical teaching of students. All teachers need up-to-date clinical practice skills.

7.7 Teaching faculty maintain clinical skills

One of the main weaknesses of the mid-level practitioner programmes internationally is that the teachers themselves do not have up-to-date skills in clinical curative primary care. This is because the teachers never acquired these skills, as is the case with nurses teaching in newly established nurse practitioner training programmes, or because they have been out of practice for many years. In mid-level practitioner programmes in some industrialized countries, teaching

staff are required to work as clinicians providing direct patient care at least 20% of the time, and often for 50% of the time. This would be worth considering in Pacific island countries as well.

8. STRATEGIES RECOMMENDED FOR DEVELOPING AND MAINTAINING A COMPETENT MID-LEVEL PRACTITIONER WORKFORCE

Most mid-level practitioners work under difficult circumstances, in isolated settings where they are responsible for the primary health care needs of individuals and families. In order to keep up their motivation and their skills and to support them in their practice, the assessment study found the following elements of health service policies and systems to be particularly important in regards to the preparation, practice and retention of mid-level and nurse practitioners.

8.1 Legal protection

Many laws regulating the practice of health workers are outdated and unduly restrictive. As a result, many mid-level practitioners around the world are actually practising outside the law, particularly with regard to prescribing drugs, performing minor surgical procedures, and providing care in emergencies. It is important that these laws be reviewed and updated so that mid-level practitioners working in under-serviced areas have legal coverage for the services they provide and for which they have been trained. It is important that existing legislation and regulations be assessed and interpreted to ensure that the scope of practice of mid-level and nurse practitioners is defined and that accountability, standards of education and autonomy of practice are clarified. WHO has collaborated with a number of Pacific island countries to review and strengthen their health legislation.

8.2 Standard treatment guidelines

Mid-level practitioners need written standard treatment guidelines or protocols, training in how to use them and monitoring and evaluation of their use. These evidence-based guidelines should be developed (or generic guidelines adapted) by national multidisciplinary committees, which should include a national pharmacist, and national medical and nursing experts. The guidelines should

reflect the realities of the situation in the country, including availability of drugs, and should be consistent with essential drug lists and other existing nationally approved treatment guidelines or protocols.

All countries using standard treatment guidelines reported that these had been very useful as clinical references. Some countries had made provision for prescriptive authority for mid-level practitioners to ensure that they have the protection of the law when providing medications within their scope of practice, as guided by approved protocols. WHO has provided technical support for a number of countries in the development of treatment guidelines or protocols.

8.3 On-going clinical supervision

Mid-level practitioners need to be supervised by doctors. But when the mid-level practitioners are in remote areas, day-to-day medical supervision is impossible, so countries need to use other strategies. Some countries assign a doctor full time to travel from one remote health facility to another, to provide supportive supervision and on-the-job continuing education to the mid-level practitioner and to follow up patients with serious and/or complex health problems. Another strategy is to have district medical officers and/or hospital-based doctors visit rural health facilities on a regular basis. At the very least, mid-level practitioners should have detailed feedback on the cases they refer to hospital.

8.4 Continuing education

It is not easy for health workers in remote areas, particularly those in small rural communities, to keep up their skills. It is difficult to arrange continuing education for those working far from referral centres, but these health workers from rural areas are the very ones that need it most. Continuing education is vital for keeping up their motivation and for ensuring competent practice.

A number of strategies have been found to be successful. One strategy is to make sure that every visit by a clinician or physician to rural health facilities becomes a teaching visit.

Another strategy is to rotate mid-level practitioners periodically to a referral hospital where they can care for patients under the supervision of medical specialists. For such rotations to be meaningful, attention must be given to scheduling which is consistent with the specific clinical learning needs of the mid-level practitioner and which reinforce diagnostic reasoning and safe, evidence-based clinical decision-making. The most effective way to organize this is for the clinical experience to be structured and under the overall supervision of one particular doctor.

Rural health workers often say that they feel left alone and forgotten. Inviting them to national and international workshops and meetings is another way of updating their knowledge and boosting their morale.

Workshops, meetings and lectures should be a supplement, and not a substitute, for hands-on clinically focused continuing education.

8.5 Career structure

A career ladder is an important motivating factor, especially for those mid-level practitioners with higher qualifications, such as nurse practitioners and medical assistants. For nurses, career development has been somewhat easier to manage, and this is one of the advantages of using the nursing model. Nurses can be promoted up the ladder and can put their advanced clinical skills to good use as supervisors or administrators. Still, in most countries there is no pathway for them to advance as clinicians.

For non-nurse mid-level practitioners like medical assistants and health extension officers, career advancement is more difficult. The assessment found that many of them feel that their career is at a "dead end". One was quoted as saying, "We feel like we are just out there floating. We are not doctors or nurses, and there is little chance for us to go forward in our jobs."

A few countries make it possible for a few experienced, capable mid-level practitioners to continue in medical school and to become doctors. Other countries have promoted these non-nurse mid-level practitioners into administrators and programme managers. This would be fine if there were adequate numbers of these health workers. But, given the shortage of clinical health workers in rural areas, the promotion of mid-level practitioners out of clinical practice has drained the health services of desperately needed patient care providers and the health services have suffered.

8.6 Conditions of service and practice

Mid-level practitioners in rural areas often work and live under harsh conditions, may be poorly paid and have limited or sporadic supervision and ongoing training. Other key factors that influence performance include the availability of suitable housing; an adequate supply of essential drugs and equipment; a safe working environment; a reliable and accessible communications and referral system; and transport.

The retention of mid-level and nurse practitioners in rural and remote areas can be particularly difficult because of poor salaries, lack of incentives, isolation and poor working conditions. Loss of key peripheral health workers poses great

difficulty in delivering health services to rural and remote areas and to vulnerable population groups. It also creates challenges for satisfying basic needs, achieving sustainable health strategies and developing healthy islands.

In order to retain mid-level practitioners in under-served areas and to keep them motivated, it is important that their professional needs be recognized and for the health system to demonstrate that their work is important and that their contribution is valued. The provision of basic drugs, medical supplies and equipment is essential. Hardship allowances and safe comfortable accommodation are important motivators.

Human resource management policies which support salary structures commensurate with the competencies, responsibilities, education and experience of mid-level practitioners are required, as are performance evaluation systems and a career structure which is based on job performance and years of experience.

9. Conclusions of the Assessment Study

Mid-level practitioner programmes have evolved in the Pacific to meet the need for health care services in small, rural, often isolated communities. Overall, the countries visited expressed satisfaction with the practice of mid-level practitioners.

The choice of models that the Pacific island countries have made has depended on their needs and the resources available at the time. It is important for health workforce planners and policy-makers to continue to review these choices, because in the midst of changing environments and demographic, economic and social changes taking place in countries across the Pacific, what was best in the past may no longer be appropriate today.

Meeting the health needs of populations of Pacific island countries requires careful and analytical strategic planning, including calculation of workforce supply and demand, in order to determine: (1) public health and primary health care professional functions and responsibilities; (2) appropriate skill-mix; (3) realistic staffing patterns; and (4) equitable distribution of health workers, to ensure service provision to isolated and/or vulnerable population groups. Moreover, it is extremely important to review, and if necessary, revise human resource management policies and procedures to ensure that all health professional groups are fairly evaluated and compensated, and that structures are in place for support, supervision and continuing education and professional development.

A number of countries with non-nurse mid-level practitioners are exploring the nurse practitioner option. Though this option may be quite reasonable, particularly in countries where multi-skilled nurses and midwives are already using clinical skills to provide primary health care services in rural and isolated communities, collaboration and deliberation are necessary in exploring all alternative options and models. Careful consideration needs to be given to analysis of the primary health care tasks and services required, and to the gaps in existing models of service provision. Possible alternative approaches must take into account the given available resources, supply, demand, distribution, recruitment and retention of health workers, and the training and experience of existing categories of health workers. Inter-professional dialogue should be facilitated and careful thought given to mechanisms for promoting integrated service provision, professional collaboration and teamwork. Whatever the country's choice, the community should be well informed in advance of any change.

The clinical skills of mid-level practitioners in Pacific island countries vary widely, making it difficult to predict the level of skills of a mid-level health worker on the basis of his or her title, entry qualifications or even on the basis of professional qualifications. Some health workers with very limited formal education, but with appropriate training, adequate supervision, and good motivation, can provide better services than less motivated health workers with more formal education and higher professional qualifications. Strengthening the skills of mid-level practitioners requires structures and policies for performance evaluation, clinical and administrative supervision and regular opportunities for continuing education and professional development.

Educational programmes for mid-level practitioners must have curricula that are appropriate for the populations' health needs and health system demands, and mechanisms which help to maintain the quality of the education. Consensus building activities and the promotion of linkages between institutions and countries are important in determining and agreeing upon core competencies and uniform processes for delineating and evaluating educational and programme standards.

In planning the health workforce for small rural communities, it is important not to fall into the trap of trying to improve services by raising the entry qualifications for mid-level practitioner training. If qualifications are too high, the very people most likely to be willing to live and work in under-served areas will be the least likely to qualify for training programmes.

10. SUMMARY OF RECOMMENDATIONS

Throughout the region, regardless of who has been trained as a mid-level practitioner, there are common problems in terms of support for these health care providers. The common areas in need of strengthening include training, legislation and regulations, and the health system and human resource policies relevant to career structure and professional development, clinical supervision, continuing education, adequate housing, and adequately equipped and maintained health facilities.

The following recommendations are made to the Ministers of Health:

1. Mid-level practitioner training programmes should have a formal curriculum, with teaching done both by doctors and by mid-level practitioners with advanced training who continue to practise in their area of clinical expertise. Further attention should be given to the development of mechanisms and guidelines which facilitate the review and evaluation of mid-level and nurse practitioner training programmes in order to maintain quality education and to continually improve quality.

2. The laws regulating medical and nursing practice should address legal issues relevant to mid-level practitioners, including scope of practice, accountability, standards of education and autonomy of practice.

3. Performance evaluation systems should be implemented, where required, along with the institution of clinical career ladders, supporting career advancement for experience and expertise in clinical practice. Salary structures commensurate with the competencies, responsibilities, education and experience of mid-level practitioners are required, in order to recruit and retain mid-level practitioners.

4. Mid-level practitioners posted to remote areas should have suitable accommodation and safe working conditions, including essential supplies, medicines, and reliable and accessible communication equipment.

5. Several methods of ensuring adequate clinical supervision, continuing education and professional development of mid-level practitioners should be considered. Regular visits by medical and clinical staff to mid-level providers for clinical supervision and teaching should be scheduled and evaluation guidelines and tools developed to facilitate meaningful visits.

6. To upgrade clinical skills, periodic deployment of mid-level practitioners to referral hospitals should be considered.

REFERENCES

Bowling, A. and Stilwell, B. *The Nurse in Family Practice: Practice Nurses and Nurse Practitioners in Primary Health Care*. London: Bailliere Tindall, 1996.

Downes, E. Mission Report to Fiji, 9 August – 8 July 2000. (MR/1999/1213). Manila WHO Regional Office for the Western Pacific, 2000.

Fritsch, K. Mission Report to the Cook Islands, 15 March to 9 November 1990. (RS/90/0098). Manila: WHO Regional Office for the Western Pacific, 1990.

Fritsch, K. Mission Report to the Cook Islands, 29 March to 13 April 1997. Manila: WHO Regional Office for the Western Pacific, 1997.

Fritsch, K. Mission Report to Kiribati, 18 August to 19 October 1994. (RS/94/0406). Manila: WHO Regional Office for the Western Pacific, 1994.

Kang, P. and Hwang, Y. Mission Report to Kiribati and Fiji, 13 July to 9 August 1997. (RS/1997/0375). Manila: WHO Regional Office for the Western Pacific, 1997.

Mundinger, M., Kane, R., Lenz, E., Totten, A., Tsai, W., Cleary, P., Friedwald, W., Siu, A., and Shelanski, M. Primary Care Outcomes in Patients Treated by Nurse Practitioners or Physicians: A Randomized Trial. *Journal of the American Medical Association*, 2000, *283*(1), 59-68.

National Focal Group, Nursing. *Case Study Assessment of Nursing's Contribution to Achievement of Health System Goals and Systems in Samoa*. Apia, Samoa: Nursing Division, Health Department, 2000.

Sox, H. Independent Primary Care Practice by Nurse Practitioners. *Journal of the American Medical Association*, 2000, *283*(1), 106-108.

Stark, R. Mission Report to the Cook Islands, 28 May to 18 June 1989. Manila: WHO Regional Office for the Western Pacific, 1989.

Stark, R. Mission Report to the Cook Islands, 3 to 14 October 1990. (RS/90/0226). Manila: WHO Regional Office for the Western Pacific, 1990.

Stark, R. Mission Report to the Cook Islands, 18 September to 14 October 1991. (RS/91/0499). Manila: WHO Regional Office for the Western Pacific, 1991.

Stark, R. Mission Report to the Cook Islands, 21 March to 2 April 1993. (RS/93/0084). Manila: WHO Regional Office for the Western Pacific, 1993.

Stark, R. Mission Report to the Cook Islands, 27 January to 11 February 1995. (RS/95/0015). Manila: WHO Regional Office for the Western Pacific, 1995.

Stark, R. Mission Report to Fiji, 2 to 11 December 1997. (RS/97/0607). Manila: WHO Regional Office for the Western Pacific, 1997.

Stark, R. Mission Report to Samoa, 9-19 April 1999. (MR/1999/0194). Manila: WHO Regional Office for the Western Pacific, 1999.

Stark, R. and Fritsch, K. Mission Report to Samoa, 23 to 26 January and 13 to 20 February 1995. (RS/1995/0014). Manila: WHO Regional Office for the Western Pacific, 1995.

Stearman, G. Mission Report to Vanuatu, 15-19 June 1999. (MR/1999/0604). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Tonga, 19-28 June 1999. (MR/1999/0603). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Solomon Islands, 6-15 June 1999, (MR/1999/0602). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Samoa, 28 June – 2 July 1999, (MR/1999/0601). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Papua New Guinea, 29 May – 6 June 1999, (MR/1999/0600). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Micronesia, 15-29 May 1999, (MR/1999/0599). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Marshall Islands, 11-15 May 1999, (MR/1999/0598). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Kiribati, 3-11 May 1999, (MR/1999/0597). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Fiji, 28 April – 10 July 1999, (MR/1999/0596). Manila: WHO Regional Office for the Western Pacific, 1999.

Stearman, G. Mission Report to Cook Islands, 10-18 July 1999, (MR/1999/0066). Manila: WHO Regional Office for the Western Pacific, 1999.

WHO Regional Office for the Western Pacific. Report on the Workshop on Clinical Teaching Strategies and Skills for Mid-Level and Nurse Practitioner Trainers. Manila: WHO Regional Office for the Western Pacific, 2000.

World Bank. *World Development Report: Investing In Health, World Development Indicators*. Oxford: Oxford University Press, 1993.